
ABSTRACT ONLY

CITIZEN SCIENCE ON THE FIREBALL DETECTION NETWORK: *BÓLIDOS DEL CONO SUR (BOCOSUR)*

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We have successfully established a national fireball detection network, comprising 20 stations strategically positioned to cover the entire Uruguayan territory. The primary challenge we encounter is managing the substantial volume of generated data, leading us to initiate a crucial Citizen Science project. To widely disseminate the BOCOSUR Project, we crafted a website featuring comprehensive information and a fireball report form. Concurrently, we installed stations in high schools nationwide and conducted over 30 talks, engaging with a diverse audience of over 1000 students. Additionally, we conducted 4 virtual training workshops tailored for high-school teachers and students eager to contribute to video analysis within the network. Each workshop comprised 3 sessions. The initial meetings focused on presenting the project and delving into essential theoretical concepts, showing station operations, and imparting manual video classification skills. The third session aimed at applying acquired knowledge to video classification. Across these editions, we had 141 participants, including 105 students and 36 teachers from 40 different institutions. Around 70 participants successfully completed all activities. In the latest edition, over 1400 videos were analyzed, uncovering 170 meteors. Recently, we concluded the first phase of developing a web app for swift video classification. This was tested in a workshop with 30 teachers from diverse institutions, resulting in the classification of 70 as meteors, from a pool of almost 400 videos. Building a comprehensive database, not limited to fireballs, is crucial for training the machine learning classification algorithm developed by the AutoBol group as an Electrical Engineering final project (Ballestrino et al. 2022).

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